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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,176

08/30/2006

Atsushi Sano

129277

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EXAMINER

BEST, ZACHARY P

ART UNIT

PAPER NUMBER

1727

NOTIFICATION DATE

DELIVERY MODE

05/13/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/591,176	Applicant(s) SANO ET AL.	
	Examiner Zachary Best	Art Unit 1727	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7,8,15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7,8,15,17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DIRECT ALCOHOL FUEL CELL AND METHOD FOR PRODUCING THE SAME

Examiner: Z. Best S.N. 10/591,176 Art Unit: 1727

DETAILED ACTION

1. Applicant's amendment filed April 18, 2011 was received. Claim 7 was amended. No new matter was added. Claims 7-8, 15, and 17 are currently pending examination.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification

3. The objection to the specification is withdrawn because the title was amended.

Claim Rejections - 35 USC § 102

4. The claim rejections under 35 U.S.C. 102(b) of Claims 7-8, 15, and 17 as being anticipated by Sterzel (US 4,828,941) are withdrawn because independent Claim 7 was amended.

Claim Rejections - 35 USC § 103

5. Claims 7-8, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sterzel (US 4,828,941) in view of Jaouen (US 2004/0028992 A1).

Regarding Claim 7, Sterzel teaches a direct alcohol fuel cell (abstract) comprising an anode having an anode catalyst layer (2), a cathode having a cathode catalyst layer (3), and a solid polymer electrolyte membrane arranged between the anode and cathode (1), the direct alcohol fuel cell generating electricity by supplying the anode with alcohol and water (col. 8, lines 5-19); wherein the solid polymer electrolyte membrane is an anion exchange membrane (col. 2, lines 52-55); wherein the cathode catalyst layer contains silver as a catalyst (col. 48-50); and wherein the cathode catalyst layer contains an anion exchange resin as a binder (see col. 5, lines 46-50, see generally col. 5, lines 1-50). However, Sterzel fail to teach the catalyst is bound by the anion exchange resin in the cathode catalyst layer.

Jaouen teaches a cathode layer structure for a solid polymer fuel cell (abstract) wherein the catalyst (10) is embedded (bound) in the anion exchange polymer (12) in the cathode catalyst layer (48) so as to have faster kinetics for the oxygen reduction reaction which takes place at the cathode side (abstract, par. 6, see also par. 28). Therefore, it would have been obvious at the time the invention was made to embed the catalyst in the anion exchange polymer of Sterzel because Jaouen teaches the catalyst embedded (bound) in the anion exchange polymer in the cathode catalyst layer will have faster kinetics for the oxygen reduction reaction which takes place at the cathode side.

Regarding Claim 8, Sterzel teaches the catalyst includes a carrier catalyst having a carbon material carrying the silver (col. 3, lines 32-50).

Regarding Claim 15, Sterzel teaches the anion exchange membrane is constituted by a polymer compound having a cation group within a molecule (col. 5, lines 28-42).

Regarding Claim 17, Sterzel teaches the alcohol is methanol (abstract).

Response to Arguments

6. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary Best whose telephone number is (571) 270-3963. The examiner can normally be reached on Monday to Thursday, 7:30 - 5:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Barbara Gilliam can be reached on (571) 272-1330. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zachary Best/
Examiner, Art Unit 1727

/Barbara L. Gilliam/

Supervisory Patent Examiner, Art Unit 1727